LaboPass™ IP-*Pfu* PCR Premix

Cat. No. CMT6006

COSMO GENETECH

Lot No.

Description

- LaboPass™ IP-*Pfu* PCR Premix is an optimized 2X PCR Master mix containing IP-*Pfu* DNA Polymerase, dNTPs, $MgCl_2$, reaction buffer, loading dye and stabilizers that is aliquoted into the Thin-Wall 8-strip PCR tube. This premix formulation simplifies PCR setup. The user simply adds template, primers, and DW to start the reaction.
- LaboPass™ IP-*Pfu* DNA Polymerase is a thermostable DNA polymerase cloned from *Pyrococcus furiosis* and a recombinant form expressed in *E.coli*. This archaeal polymerase possesses 3'-5' exonuclease proofreading activity together with 5'-3' polymerase activity, which allows high fidelity DNA amplification. *Pfu* polymerase remains its polymerase activity during extended exposure at 98˚C unlike *Taq* polymerase. Therefore, this enzyme can be used to amplify difficult templates (e.g. high GC content or stable secondary-structure).

Specifications

Components	IP-*Pfu* Polymerase, dNTPs, reaction buffer, loading dye stabilizers
Type	Ready-to-use (Only DNA template and primers are needed)
Reaction volume	20 µl (2X PCR Master mix is aliquoted (each 10 µl) into the PCR tube)

Store at -20˚C

Storage and Stability

LaboPass™ PCR Premix is stable for 1 year when stored at -20˚C.
Repeated freezing and thawing of the premix is not recommended.

Applications

- High fidelity PCR
- Preparation of PCR products for cDNA cloning
- Site-directed mutagenesis
- Blunting of DNA ends

Quality Control

Each lot of IP-*Pfu* polymerase, reaction buffer and dNTPs is tested for contamination such as *E.coli* genomic DNA, nicking, endonuclease and exonuclease.

Standard Reaction

Components	Volumes (µl)
2X IP-*Pfu* PCR Premix	10 µl
Forward Primer (10~50 pmoles/µl)	1 µl
Reverse Primer (10~50 pmoles/µl)	1 µl
DNA Template (Variable*)	1~2 µl
Distilled water	6~7 µl
Total reaction volume	**20 µl**

*** Amount of DNA template**

- Eukaryotic genomic DNA 10-200 ng
- Prokaryotic genomic DNA 1-50 ng
- Purified homogeneous DNA (e.g. plasmid, lambda DNA. etc) <5 ng
- cDNA : 0.5-10% of RT reaction volume

General Thermo-Cycler protocol

Step	Time	Temperature
Initial denaturation	1-5 min	94-95˚C
25-35 Cycles:		
Denaturation	10-25 sec	94-95˚C
Annealing	10-25 sec	45-70˚C
Extension	60 sec/1 kb	68-72˚C
Final extension	5 min	68-72˚C

*** Note**

- Vortex all solutions and spin down carefully before using
- Dispense on ice and spin down again

For laboratory use only

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